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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,272	03/08/2005	Si Han Kim	K50.12-0001	2326
27367 7590 07/20/2010 WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402				
EXAMINER				
ABDIN, SHAHEDA A				
ART UNIT		PAPER NUMBER		
2629				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/527,272

**Applicant(s)**

KIM, SI HAN

**Examiner**

SHAHEDA A. ABDIN

**Art Unit**

2629

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-13 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13, 21-24 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB06)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date \_\_\_\_\_
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The amendment filed on 04/29/2010 has been entered and considered by Examiner.

#### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk (US Patent No: 6643124B1) in view of Narayanswamy US Patent No: (6144358).

(1) Regarding claim 21:

Wilk teaches a multi display device (in Fig. 6 and 12-15) comprising:

at least two panel housings (i.e. housing for panels 144, 142, in Fig. 15) with displays (e.g. 158 and 156), the panel housings being foldable on each other (see the illustration in fig. 16, the housing of panels 144 and 142 are foldable), wherein, a first display has a first edge and a second edge, at least one side of the displays being disposed adjacent to each other when the panel housings are unfolded in which a first

display has a first edge and a second display has a second edge (see the illustration of Fig. 15, and column 8, lines 28-41) ,

a key input part (e.g. key input part 146); and

a connection joint portion (i.e. joint portion by hinge 143, Fig. 15) formed on a sidewall of the panel housing (i.e. 144) to which the displays are adjacent (see Fig. 15, and column 8, lines 28-41) so as to dispose the displays to be adjacent to each other and the connection joint portion positioned along a first display edge and a second display edge (see the illustration in Fig. 15).

Note that Wilk teaches first and second display and the displays are adjacent to each other. Wilk does not specifically disclose that (#1) the first display edge is in abutting contact (two screen as one screen) with a second display edge; the displays being positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing, and (#2) connection shaft grooves being equipped on the inner side from the sidewall of the panel housing, whereby the connection shafts are mounted in the connection shaft grooves.

Regarding item # 1

However, Narayanswamy in the same field of endeavor discloses a first display edge is in abutting contact (two screen as one screen) with a second display edge ; a

connection joint portion positioned along a first display edge and a second display edge (column 4, lines 1-16, and Fig. 4), the displays being positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a first display edge in abutting contact (two screen as one screen) with a second display edge ; a connection joint portion positioned along a first display edge and a second display edge as taught by Narayanswamy in to the display system of Wilk so the first display edge could be positioned in abutting contact (two screen as one screen) with the second display edge ; a connection joint portion could be positioned along the first display edge and the second display edge wherein the displays being positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing. In this configuration the mobile communication device would achieve a compact display device.

Regarding item#2:

Note that Naryanaswamy does not specifically disclose "connection shaft grooves (i.e. joint portion between displays in Fig. 4) being equipped on the inner side from the sidewall of the panel housing, whereby the connection shafts are mounted in

the connection shaft grooves". However, such limitation are merely a matter of obvious choice and would have been obvious in the system of "Narayanswamy". The limitations do not define a patentably distinct invention over that in "Narayanswamy" since the invention as a whole and "Narayanswamy" are directed to a hinge or other similar mechanism may be used to keep the displays together when used in the open, e.g., active, configuration or the closed, e.g., inactive, configuration and thereby A locking mechanism can be used to keep the combined structure rigid when the screens are unfolded (column 2, lines 29-52).

Therefore, to have the limitations "connection shaft grooves (i.e. joint portion between displays in Fig. 4) being equipped on the inner side from the sidewall of the panel housing, whereby the connection shafts are mounted in the connection shaft grooves". "Narayanswamy" would have been a matter of obvious choice to one of ordinary skill in the art. In this configuration the system would provide a compact and high efficient communication device which could be rotably or foldably joined multiple display panels by the hinge.

Regarding claim 1:

Note that the claim limitations are already discussed in claim 21. See the discussion in claim 1.

(2) Regarding claim 22:

Wilk teaches (in Fig 11) connection joint portion (i.e. connection joining portion formed on a sidewall of the panel housing 108 and 88) is opened (i.e. side mounted portion is opened for expanding the display of panel housing 108).

(3) Regarding claim 28:

Note that the discussion above in claim 21, the claim limitations of the claim 28 already discussed in claim 21.

(4) Regarding claim 23:

Regarding claim 23, although **"Wilk"** doesn't specifically disclose \* a thickness of the connection joint portion is less than 0.5 mm\*, such limitation are merely a matter obvious choice and would have been obvious in the system of **"wilk"**. since the invention as a whole and **"Wilk"** are directed to an expanding part (i.e. 108), the expanding part (i.e. 108) being coupled to the small Joint portion of the housing for display 98 (see the illustration in Fig. 11).

Therefore, a thickness of the connection joint portion is less than 0.5 mm **"Wilk"** would have been a matter of obvious choice to one of ordinary skill in the art. In this configuration the system would provide a easy to operate and compact electronic device with multiple display (Wilk, column 2, lines 9-18).

3. Claims 9-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk in view of Disanto (US Patent No: 5508720) and further in view of Narayanswamy (US Patent No: 6144358).

(1) Regarding claim 9:

Note that Wilk teaches at least two panel housings (i.e. e.g. housing of panel 144 and 142) with displays (i.e. 158 and 156), the panel housings being foldable on each other (see Fig. 13 and 14 that panel housings are foldable by the hinges 141 and 143), at least one side of the displays (158 and 138) being disposed adjacent to each other when the panel housings are unfolded (see the illustration on Fig. 15) (column 8, lines 1-40); but Wilk does not disclose (#1) a key input part slidable in a right-angle direction to a direction connecting the display panel insertable into a lower portion by a sliding motion whereby the key input part is positioned behind the displays and does not cover the display, (#2) the displays being positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing, and (#3) connection shaft grooves being equipped on the inner side from the sidewall of the panel housing, whereby the connection shafts are mounted in the connection shaft grooves.

Regarding item #1:

However, Disanto in the same field of endeavor teaches a key input part (33) slidable in a right-angle direction to a direction (e.g. push-pull direction) connecting the



display panel insert able into a lower portion by a sliding motion (i.e. keypad 32 disposed on a plat form 33 is extending from the panel housing 12 in a pushable or slidable motion) whereby the key input part is positioned behind the displays (i.e. 14 and 20) and does not cover the display.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a key input part which is insert able into a lower by a sliding motion as taught by Disanto in to the display system of Wilk so a key input part which is slidable in a right-angle direction to a direction connecting the display panel could be insert able into a lower portion by a sliding motion, the key input part being positioned behind the displays and does not cover the display. In this configuration the mobile communication device would achieve a great display capacity without being increased in size.

Narayanswamy in the same field of endeavor discloses a first display edge is in abutting contact (two screen as one screen) with a second display edge ; a connection joint portion positioned along a first display edge and a second display edge (column 4, lines 1-16, and Fig. 4), the displays being positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a first display edge is in abutting contact (two screen

as one screen) with a second display edge ; a connection joint portion positioned along a first display edge and a second display edge as taught by Narayanswamy in to the display system of Wilk as modified by Disanto so the displays could be positioned closer on a sidewall of the panel housing to which the displays are adjacent, than the other sidewall of the panel housing; and connection shafts for folding and unfolding the panel housing being positioned at both edges of the panel housing. In this configuration the mobile communication device would achieve a compact display device.

Regarding item#3:

Note that Naryanaswamy does not specifically discloses "connection shaft grooves (i.e. joint portion between displays in Fig. 4) being equipped on the inner side from the sidewall of the panel housing, whereby the connection shafts are mounted in the connection shaft grooves". However, such limitation are merely a matter of obvious choice and would have been obvious in the system of "Narayanswamy". The limitations do not define a patentably distinct invention over that in "Narayanswamy" since the invention as a whole and "Narayanswamy" are directed to a hinge or other similar mechanism may be used to keep the displays together when used in the open, e.g., active, configuration or the closed, e.g., inactive, configuration and thereby A locking mechanism can be used to keep the combined structure rigid when the screens are unfolded (column 2, lines 29-52).

Therefore, combining the reference of Wilk Disanto and Narayanswamy teaches the claimed limitations as recited in claim 9.

(2) Regarding claim 10:

Note that Disanto teaches the sliding motion of the key input part (i.e. 213, Fig. 2b) and Wilk and Narayanswamy both teach folding/unfolding operation of the panel housings. Therefore, it would have been obvious that the sliding motion of the key input part being synchronized with a folding/unfolding operation of the panel housings.

(3) Regarding claim 11:

Wilk teaches a sub-display (i.e. 154) formed on an outer surface of the panel housings (i.e. 142, 144) (column 8, lines 10-20, Fig. 14).

(4) Regarding claim 12:

Note that Disanto teaches wherein the key input part slides out and Wilk and Narayanshima both teach the panel housings (i.e. 144 and 142) are unfolded from each other (see Fig. 14). Therefore it would have been obvious to have the key input part slides out when the panel housings are unfolded from each other.

(5) Regarding claim 13:

Wilk teaches an expanding part (i.e. 194) separately coupled on the key input part (i.e. key pad of the phone) (column 8, lines 59-67).

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk in view of Miyashita (US Patent No: 6327482 B1).

Regarding claim 24:

Note that Wilk in Fig. 15 discloses a side wall (i.e. 143) of the panel housings (144 and 142) where the displays are adjacent to each other but Wilk does not disclose that the side wall is cut away to defining a cutting portion.

However, Miyashita in the same field of endeavor discloses that the side wall is cut away to defining a cutting portion (i.e. 9d, Fig. 4A-4B).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a side wall as taught by Miyashita in to the display system of Wilk so that the display system could have a side wall which is cut away to defining a cutting portion and the displays could be mounted on the upper end of the cutting portion. In this configuration the system would have a compact and easy to read with accurate data transmission display device (Miyashita, column 1, lines 35-45).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 9-13, 21-24 and 28 have been considered but are they are moot in view of new ground of rejection. In view of amendment the reference Narayanswamy (US Patent No 6144358) has been added.

**Regarding claims 25-27:**

Based on Applicant's respond to election species on Fig. 15, claims 9-13, 15-17 and 21-24 and 28 have been examined in this office action for further consideration. Applicant needs to withdraw the claims 14 and 25-27, because these claims are not belongs to the Applicant's elected species. Applicant also provides that the new amendment to claims 9 and 21 corresponding to Fig. 26 which is inconsistent with the Applicant's election species on Fig. 15.

**Conclusion**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Inquiry**

2. Any inquiry concerning this communication or earlier communication should be directed to Shaheda Abdin whose telephone number is (571) 270-1673 and Fax number is (571) 270-2673.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard HJerpe could be reached at (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pari-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shaheda Abdin

07/15/2010

/Richard Hjerpe/

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